

## A PROLIFIC SEX FORM VARIANT OF EASTERN GAMAGRASS

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*Tripsacum dactyloides* (L.) L. forma *prolificum* Dayton et Dewald, forma nov, a formis *dactyloide* per partem terminalem racemorum spiculis pistillatis atque perfectis, ovaris bene evolutis in uterque flosculis difert.

Inflorescence gynomonocous, 1-4 spike-like racemes or racemose branches, 12-30 cm long, with perfect spikelets (2-12 pairs) above and pistillate spikelets below. Basal pistillate spikelets (4-18) are sessile, usually solitary, indurate, awnless, mostly 8-12 mm long, the outer glumes fused with rachis and tightly enclosing the other spikelet parts. Distal pistillate spikelets are paired (18-50 pairs) with indurate, awnless glumes 7-11 mm long and 2.5-4.5 mm wide. Spikelets are 2-flowered and contain well developed pistills. Foliage is variable within the range of normal *T. dactyloides*.

Type. Dewald, WW-1654, borrow ditch adjacent to small farm pond, ca 1 mi (air) S of State Lake, R 2W, T 11 S, Sec. 17, Ottawa County, Kansas. 2 July, 1982. (OKLA).

The inflorescence of forma *prolificum* is altered so drastically that, the plants cannot be identified as *Tripsacum* using traditional taxonomic keys. The appearance of perfect spikelets and two fertile florets per spikelet is a unique example of evolutionary reversal or genetic recall within the genus and contributes to our understanding of the phylogeny of the *Andropogoneae* and the evolution of important crops such as corn and sorghum.

This variant, with its increased number of pistillate florets has the potential to increase seed production by twenty-fold over the normal monocous *T. dactyloides*. Low seed production has been a primary factor limiting the utilization of *T. dactyloides* as a major forage species. This novel variant is fully fertile and produces viable seed throughout the inflorescence when selfed or pollinated by a wide range of normal diploid *T. dactyloides* strains. Several hundred genotypes of this variant have been produced and its abundance will expand rapidly via utilization in breeding programs and the development of commercial cultivars.